APPENDIX I
RANGE IMPROVEMENTS AND TREATMENTS

The following is a discussion of typical design features and construction practices for range improvements and treatments. In addition, there are many special design features that can be made part of a project's design that are not specifically discussed in this appendix. One example of a special design feature would be the use of a specific color of fence post to blend with the surrounding environment and thereby mitigate some of the visual impact of the fence. These mitigating design features will be developed, if needed, for individual projects at the time an environmental assessment is written.

STRUCTURAL IMPROVEMENTS

Fences

Fences would be constructed to provide exterior allotment boundaries, divide allotments into pastures, protect streams, and control livestock. Most fences would be three or four wire with steel posts spaced 16.5 feet apart with intermediate wire stays. Jack legs would be used where steel posts are not practical. Proposed fence lines would not be bladed or scraped. Gates or cattleguards would be installed where fences cross existing roads.

Where fences may impair the movement of wildlife, they would be no more than forty-two inches in height with no stays, three or four strand with ten inch spacing between top and next lower wire, and the bottom wire at least sixteen inches above the ground. Where needed on key big game areas, the top wire would also be smooth. Existing fences that create wildlife movement problems would be modified. For any fences in wildlife migration areas, the need for let down fences to allow passage of wildlife would be analyzed. These fences would be let down when livestock are not present. The BLM would be responsible for management of these special purpose fences.

Spring Development

Springs would be developed or redeveloped using a backhoe to install a buried collection system, usually consisting of drain tile and a collection box. The collection box is normally made from a section of 24 to 42 inch metal culvert with a cover and a fitting to which a delivery pipe is connected. A short pipeline would be installed to deliver water to a trough for use by livestock and wildlife. Normally the spring area is fenced to exclude livestock.

Pipelines

Wherever possible, water pipelines would be buried. The trench would be excavated by a backhoe, ditchwitch, or similar equipment. Rigid plastic pipe would be placed in the trench, and the excavated material would be used to backfill. While some flexible pipe may be installed using a ripper tooth, this is not a preferred technique. Most pipelines would have water tanks spaced approximately one-half mile apart.

Wells

Well sites would be selected based on geologic reports that predict the depth to reliable aquifers. All applicable state laws and regulations that apply to the development of groundwater would be observed.

NONSTRUCTURAL IMPROVEMENTS

Burning

Burning is proposed to reduce the amount of big sagebrush and/or conifers on a site. Burning would normally be done during the spring months, April and May, or the fall months, September and October, depending on the specific prescription written for each area. Burn plans would be developed for each burn.

Plowing and Seeding

Most of the sites to be plowed and seeded are in poor or fair vegetative condition and have a low potential to improve under other management practices. Most of the existing vegetation would be eliminated during seedbed preparation, and the site would be seeded with species adapted to the area. The final selection of species to be seeded would depend on the planned use of the site and the management objectives for the allotment. Seed would be drilled wherever possible. The application of mulch and/or fertilizer would be prescribed based on site characteristics.

Interseeding

Interseeding differs from plowing and seeding in that the existing vegetation is not eliminated during seedbed preparation. Desirable plant species would be interseeded with existing vegetation. A seed dribbler used with a crawler tractor, a small scalper/seeder, or range drill would be used to interseed strips. Broadcast seeding could possibly be used as well. Species to be seeded would be selected to meet management objectives developed for the allotment.

Plant Pest Control

Poisonous or noxious plants would be controlled where spot infestations occur or where the BLM would cooperate with other affected landowners in controlling infestations on relatively large areas. Biological control would be used where practical. Chemical control would conform to all applicable state and federal regulations.

STANDARD OPERATING PROCEDURES

The following procedures would be followed in the construction of all management facilities and for vegetative manipulations.

Specific projects would be assessed individually to determine whether they would have adverse environmental impacts.

Roads or trails to new construction or project sites would not normally be constructed. Use of existing roads and trails would be encouraged.

To comply with the National Historic Preservation Act of 1966, 36 CFR 800, and Executive Order 11593; all areas where ground is to be disturbed by range developments would be inventoried for prehistoric and historic features. Where feasible, all sites found by this inventory would be avoided. If buried cultural remains are encountered during construction, the operator would temporarily discontinue construction until the BLM evaluates the discovery and determines the appropriate action.

No action would be taken by the BLM that could jeopardize the continued existence of any federally listed threatened or endangered plant or animal species. An endangered species clearance with the U.S. Fish and Wildlife Service (FWS) would be required before any part of the proposal or alternatives would be implemented that could affect an endangered species or its habitat. In addition to the federally listed species, the BLM also would comply with any state laws that list animal or plant species as being threatened or endangered.

Wilderness values would be protected as required for lands under wilderness review or study by the Interim Management Policy.

All actions would comply with guidelines for implementing Visual Resource Management classes. The management criteria for the specific visual class would be followed.

Wildlife escape devices would be installed and maintained in water troughs.

In crucial wildlife habitat (winter ranges, fawning and calving areas, strutting grounds, etc.), construction work on projects would be scheduled during seasons when the animals are not concentrated in the area to avoid or minimize disturbances.

After construction, any disturbed areas would be revegetated with a mixture of grasses, forbs, and shrubs as appropriate for the site.

Analysis of cost effectiveness would be done in an Allotment Management Plan (AMP) prior to the installation of any management facility or land treatment.

All areas where vegetative manipulations occur would be totally rested from grazing for at least two growing seasons following treatment.

Vegetative manipulation would be done in irregular patterns creating more edge (more than strip and block manipulation) with islands of vegetation left for cover.

Consultation with the Montana Department of Fish, Wildlife, and Parks would be required prior to job layout, design, and accomplishment in accordance with the existing memorandum of understanding between the MDFW&P and BLM.

Chemical treatment would consist of applying approved chemicals to control noxious or poisonous plants. Before chemicals are applied, the BLM would comply with the Department of the Interior regulations. All chemical applications would be preceded by an approved pesticide use proposal. All applications of pesticides would be under the supervision of a certified pesticide specialist. All applications would be carried out in compliance with the pesticide laws of Montana.